## Purpose of role

This appointment will complement and strengthen research related to the expansion of activities within The Rolls-Royce University Technology Centre (UTC) in Manufacturing and On-Wing Technology as well as teaching in mechanical design and simulation related disciplines at the Department of Mechanical, Materials and Manufacturing Engineering (M3).

This expansion is in the area of engineering design for manufacture, analytical/numerical simulations for efficient realisation of specialist manufacturing tools (e.g. fixtures, specialist devices and machines) for conventional workshop based or on-platform processing of aerospace components/assemblies.

The successful candidate will contribute to the delivery of teaching for the M3 Department’s undergraduate and postgraduate taught courses. He or she will also be expected to join the fast expanding Rolls-Royce UTC in Manufacturing and On-Wing Technology and contribute to high quality research.

The Rolls-Royce UTC at Univ. of Nottingham, a university flagship research unit, has been very successful in attracting significant research funding from research organisations as well as industry while publishing high-impact papers in leading academic journals, filing a high number of international patent and attracting the interest of mass-media.

Candidates should have an established track record of independent research, appropriate number of publications in high-impact academic journal, ability to work with industrial/academic partners, and experience of developing successful proposals and applications for research funding.

The role holder will take responsibility for delivering high quality teaching and contributing to the planning, design, development and delivery of materials for undergraduate programmes in the Department of Mechanical, Materials and Manufacturing Engineering. The role may include the development of course curricula and teaching materials as required.

## Main responsibilities

(Primary accountabilities and responsibilities expected to fulfil the role)

<table>
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<th>% time per year</th>
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| 1 | Conduct successful research | 50% |

- Identify, conduct and lead original research to further support the expansion of the Rolls-Royce UTC in Manufacturing and On-Wing Technology |
- Seek and secure external research funding through the development of applications to external funding bodies
- Conduct and supervise others conducting original research, resulting in high quality publications in nationally and internationally recognised peer reviewed journals
- Supervise postgraduate research students engaged in original research
- Work alone or in a diverse team (e.g. academia and industry) to meet deadlines and to prioritise tasks to enable the further expansion of Rolls-Royce UTC at Univ. of Nottingham

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Deliver teaching, administration and leadership roles to a high standard
- Lead/support the development/delivery of teaching areas of the Department including close liaison with other members of the course development teams.
- Plan and deliver high quality teaching at undergraduate and postgraduate levels to enhance the Faculty’s reputation for excellence in teaching.
- Supervise final year undergraduates and taught postgraduates conducting individual projects
- Provide tutorials and pastoral care of students.
- Examine in the assessments for degrees and diplomas of the University
- To be responsible for administrative duties as required in the leadership and operation of the Department
- Deliver any other duties appropriate to the grade and role as required

Person specification

<table>
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<th>Skills</th>
<th>Essential</th>
<th>Desirable</th>
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<tbody>
<tr>
<td></td>
<td>Knowledge and skills to teach design or mechanical engineering disciplines at university level</td>
<td>Research track record in an area compatible with current research portfolio of Rolls-Royce UTC in Manufacturing and On-Wing Technology</td>
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<td>Extensive knowledge and skills to undertake original, high-quality research in the area of design, manufacture and simulation of complex mechanical systems to assist manufacturing technologies for further expansion of the Rolls-Royce UTC at Univ. of Nottingham and relevant to undergraduate and postgraduate courses within the Department</td>
<td>Ability to teach other subjects within the Department of M3</td>
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<td>Excellent oral and written communication skills, including the ability to communicate complex information with clarity</td>
<td>Experience of design, analytical /numerical simulations and manufacture of intelligent fixtures/tooling systems and specialist machine tools and sub-systems for manufacturing processes with relevance to real industrial application</td>
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<td>Self-starting and pro-active, demonstrating an ability to work alone or in a team to meet deadlines and to prioritise tasks to enable the further expansion of</td>
<td>Experience of developing research proposals in academia and/or industry, defining personal research plans and knowledge of research funding sources</td>
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<td>Experience of undergraduate or postgraduate project supervision</td>
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### Knowledge and experience

- Relevant postdoctoral research experience or appropriate industrial experience
- Track record of high quality publications in peer reviewed journals
- Track record in participating in projects with partners from both academia and industry and experience to lead industry focused projects
- Experience of implementing teaching activities
- Experience in grant proposal writing and the acquisition of own research funding and the management and leadership of research programmes
- Relevant teaching experience in higher education

### Qualifications, certification and training (relevant to role)

- Degree in a relevant discipline
- PhD or equivalent in manufacturing/mechanical engineering or a related discipline
- First degree or equivalent and/or postgraduate study in mechanical/manufacturing engineering with expertise in design and manufacture of intelligent tooling and specialist machines supported by analytical/numerical simulations of their performances

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The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.

### Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University’s strategy, vision and values. The following are essential to the role:

**Valuing people**

Is always equitable and fair and works with integrity. Proactively looks for ways to develop the team and is comfortable providing clarity by explaining the rationale behind decisions.

**Taking ownership**

Is highly self-aware, looking for ways to improve, both taking on board and offering constructive feedback. Inspires others to take accountability for their own areas.

**Forward thinking**

Driven to question the status quo and explore new ideas, supporting the team to “lead the way” in terms of know-how and learning.
**Professional pride**

Sets the bar high with quality systems and control measures in place. Demands high standards of others identifying and addressing any gaps to enhance the overall performance.

**Always inclusive**

Ensures accessibility to the wider community, actively encouraging inclusion and seeking to involve others. Ensures others always consider the wider context when sharing information making full use of networks and connections.

**Key relationships with others**